

REMARKS

Applicant thanks the Examiner for the careful review of this application. Applicant has canceled claims 27 and 31. Applicant has amended claims 18 and 35 to better clarify the scope of the invention. Applicant has added new claims 38 - 41. No new matter has been added. Claims 18 - 26, 28-30, 32 - 41 remain pending in the application. Applicant points out that information adjacent check boxes 4 and 6 under Disposition of Claims in the Office Action Summary is incorrect in stating claims 1 - 37 are pending. Claims 1 - 17 have been canceled in previous Office Action Responses dated February 23 and April 7, 2004.

REJECTIONS UNDER 35 U.S.C. § 102

Examiner has rejected claims 18 - 22, 25, 27, and 35 under 35 U.S.C. § 102(b), as being anticipated by Meyers et al., U.S. Patent No. 4,828,835.

The Prior Art

Meyers et al. discloses a storage stable, water emulsifiable, substantially non-aqueous liquid or low melting solid concentrate adapted for on-site preparation of an aqueous emulsion of an agricultural chemical, consisting essentially of a solution, in (a) a liquid hydrophobic agricultural chemical having biocidal activity, of (b) a solid hydrophobic polymer, in an amount effective to achieve sustained release of (a), and (c) an emulsifying agent, in an amount effective to form a stable oil-in-water emulsion when the concentrate is mixed with water.

The Prior Art Distinguished

With respect to claim 18, Meyers et al. does not specifically disclose soil biocides methyl bromide, chloropicrin, and methylothiocyanate. Meyers et al. states (col. 3 lines 50-55) "A wide variety of one or more agricultural chemicals having biocidal activity can be employed in the concentrates of this invention, e.g., those having nematocidal, insecticidal, fungicidal or pesticidal activity, provided the

agricultural chemical is hydrophobic and liquid at room temperature.” Applicant respectfully submits that this generic description does not disclose the specific compounds chloropicrin and methylisothiocyanate, as a genus does not anticipate a species. Methyl bromide is not disclosed by Meyers et al. via the citation above, as this compound is not a liquid at room temperature. Applicant respectfully suggests that Meyers et al. does not anticipate claim 18, as amended, since all elements of claim 18 are not disclosed by Meyers et al., specifically:

- creating a biocide formulation containing
- an emulsifier, and
- an effective amount of a soil biocide selected from the group consisting of methyl bromide, chloropicrin, and methylisothiocyanate.

Applicant therefore submits that claim 18, as amended, is patentable over the cited prior art. Since claims 19-26, 28-31, and 34 are proper dependent claims directly or indirectly reporting to claim 18, they are also patentable.

With respect to claim 35, Meyers et al. does not specifically disclose soil biocides methyl bromide, chloropicrin, and methylisothiocyanate. Based on the same arguments presented above for claim 18, the Applicant respectfully suggests that Meyers et al. does not anticipate claim 35, as amended, since all elements of claim 35 are not disclosed by Meyers et al., specifically:

- creating a biocide formulation including
- an anionic surfactant,
- a non-ionic surfactant, and
- an effective amount of a soil biocide selected from the group consisting of methyl bromide, chloropicrin, and methylisothiocyanate.

Applicant therefore submits that claim 35, as amended, is patentable over the cited prior art.

With respect to new claim 39, Meyers et al. does not disclose
creating a biocide formulation ***consisting essentially of***
an emulsifier, and

an effective amount of a soil biocide selected from the group consisting of methyl bromide, chloropicrin, 1-3 dichloropropene, and methylisothiocyanate. Meyers et al. discloses a biocide formulation containing a polymer. The polymer concentration is at least 20% (Meyers et al., col. 3, lines 47-49). Applicant respectfully submits that Meyers et al. does not anticipate new claim 39, and that this claim is patentable. Since claim 40 and 41 are proper dependent claims, reporting to claim 39, they are also patentable.

REJECTIONS UNDER 35 U.S.C. § 103

Examiner has rejected Claims 28 - 30 and 32 - 34 under 35 USC §103(a), as being unpatentable over Meyer et al. (US Patent No. 4,828,835) in view of Imai et al. (US Patent No. 5,846,904).

Examiner has rejected Claims 23, 24, 26, 36 and 37 under 35 USC §103(a), as being unpatentable over Meyer et al. (US Patent No. 4,828,835).

The Prior Art

Meyers et al. discloses a storage stable, water emulsifiable, substantially non-aqueous liquid or low melting solid concentrate adapted for on-site preparation of an aqueous emulsion of an agricultural chemical, consisting essentially of a solution, in (a) a liquid hydrophobic agricultural chemical having biocidal activity, of (b) a solid hydrophobic polymer, in an amount effective to achieve sustained release of (a), and (c) an emulsifying agent, in an amount effective to form a stable oil-in-water emulsion when the concentrate is mixed with water.

Imai et al. discloses a stick-shaped soil fumigant preparation and an application method therefore. The fumigant preparation comprises a water-soluble and/or biodegradable film and a soil sterilizer and/or nematocide hermetically packed in the form of a stick with the film. The soil sterilizer and nematocide are each in a liquid form at room temperature. The soil fumigant preparation according to the present invention remains suppressed in toxicity, volatility and irritation before application to the soil, but its active ingredient(s) are promptly released after application. In addition, the present invention makes it possible to provide a fumigant

in such a form as permitting a substantial improvement in the efficiency of work by a fumigating worker and also to provide an effective application method therefore, without the need for any machine designed exclusively for fumigation.

The Prior Art Distinguished

With respect to independent claim 32, the applicant respectfully disagrees that Meyers et al. in combination with Imai et al. teach all elements of claim 32, specifically:

applying said soil treatment mixture to the soil in a drip irrigation system. The Applicant respectfully disagrees that Imai et al. teaches the "well known and expected application of such biocides by drip irrigation..." (col. 1 lines 10-18). Imai et al. states "To apply a soil fumigant which is in a liquid form at room temperature, such as chloropicrin, 1,3-dichloropropene, dichlorodiisopropyl ether or methyl isothiocyanate in its ***inherent liquid form***, it is filled in a tank of a ***soil drenching machine*** and then discharged into the soil through end nozzles of the drenching machine. In this case, there is a concern about ***adverse effects of the fumigant on the health of a worker*** due to its toxicity, volatility and irritation" (Imai et al. col. 1, lines 10-18). The above citation more closely describes the traditional fumigation process, also described in the Applicant's specification, page 2, lines 15-18 "Typically following preparation is a process called pre-plant soil fumigation, in which a commercial fumigator enters the field with a tractor with a rear mounted tool bar, to which is attached plumbed shanks that penetrate the soil and deliver the pre-plant soil fumigant to the desired depth." Applicant's specification goes on to state (page 3, line 1) "...traditional methods of soil fumigation may expose workers to soil fumigants." These methods are not drip irrigation, which is further distinguished and described in the applicant's specification on page 10, lines 8-21. Drip irrigation systems contain a network of piping distributed throughout the farmer's field through which aqueous solutions are distributed. Due to the considerable volume of all the piping in drip irrigation systems, distribution of concentrated, volatile organic fumigants is not practical. Imai et al. teaches away from drip irrigation systems by suggesting the fumigants are distributed in their "***inherent liquid form***" (i.e., full concentration). Distribution of concentrated fumigants via drip irrigation is also not

recommended due to the corrosive nature of these fumigants with respect to the plastic piping commonly used for drip systems. The Applicant respectfully contends that one of ordinary skill in the art would not interpret the ***soil drenching machine*** as disclosed in Imai et al. as a drip irrigation system. Nowhere in Imai et al. is it suggested that such a machine can be used to distribute aqueous mixtures of fumigants, nor is the general description of a drip irrigation system provided. The Applicant suggests that neither Imai et al. or Meyers et al., alone or in combination, teaches the limitation "applying said soil treatment mixture to the soil in a drip irrigation system" of claim 32, and that the Examiner has failed to establish a prima facie case of obviousness. Applicant respectfully contends that claim 32 is patentable.

DOUBLE PATENTING REJECTION

The Examiner has provisionally rejected claims 18 - 37 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 21 - 39 of copending Application No. 10/351,072. Applicant has provided a terminal disclaimer in compliance with 37 CFR 1.321 (c) with this filing.

ALLOWABLE SUBJECT MATTER

The Examiner has noted that dependent claim 31 is free of an art rejection. Claim 31 has been re-written as new independent claim 38, including the limitations of independent claim 18 and all intervening claims, and is therefore patentable.

CONCLUSION

Applicant believes that all pending claims, as amended, are clearly allowable over the known prior art and respectfully requests a Notice of Allowance for this application from the Examiner.

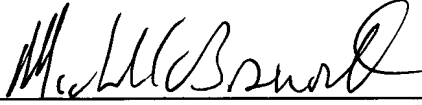
If the Examiner believes that a conference would be of value in expediting the prosecution of this application, he is cordially invited to telephone the undersigned counsel to arrange for such a conference.

Respectfully submitted,

BURNS, DOANE, SWECKER & MATHIS, L.L.P.

Date: September 27, 2004

By: _____



Michael K. Bosworth
Registration No. 28,186

P.O. Box 1404
Alexandria, Virginia 22313-1404
(650) 622-2300